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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RETTA, YEHDEGA

ART UNIT

PAPER NUMBER

3622

MAIL DATE

DELIVERY MODE

08/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/804,728	Applicant(s) SRINIVASAN ET AL.	
	Examiner Yehdega Retta	Art Unit 3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3622

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed May 28, 2008. Applicant amended claims 1 and 13, and also added new claim 20. Claims 1-20 are currently pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 13 recite wherein the offers include optimal advertisements determined from real time learning from dynamic analyses of promotional experimentation of the various promotions offered to various other customers. Based on applicant's argument, it is interpreted to mean that the experiments are performed on customers other than the customer that is considered to be defunct and than is offered a promotion, i.e. the customer is not included in the experiments. Based on this interpretation the claim is rejected as containing new subject matter.

The application does not teach the promotional experimentation is done on promotions offered to other customers. Applicant's specification discloses as following:

“It is easy to change eCommerce promotions by simply updating a Web page. In addition, it is possible to present different promotions to different online customers without

Art Unit: 3622

either customer learning the promotion that has been offered to the other. This may be accomplished by presenting different levels of promotion to different potential customers, for example. Because of these reasons, it is possible to perform controlled, real-time experiments on samples of the customer population to determine customer promotion sensitivities. This information can then be used to determine real-time optimal promotion strategies for an entire customer population or for selected segments of the customer population. In addition, merchants may learn from the online experiments, and apply this learning to offline counterpart market strategies". (See [0076]). "The sampling experiments conducted by the method and system of the present invention are designed to measure different customer inclinations. For example, one area of measurement may be to measure customer inclination to purchase a product at differing promotional levels. In this application, the amount of the promotion is deliberately varied by the inventive system during a sampling period, and statistics are kept by the system to determine what percentage of customers are likely to buy or exhibit interest in the product at the different promotional levels. The statistics typically include, for example, the number of customers who actually purchased the product at each promotional level". (See [0077])

As indicated above the specification discloses that the real-time experiments is performed on samples of the customer population to determine customer promotion sensitivities and the information can be used to determine promotion strategies for an entire customer population or for selected segments of the customer population. The specification does not teach the experiment is performed on other customers beside the one that provided with the promotion.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites, specifying a range of offers to be included in a set of promotions wherein the offers include optimal advertisements determined from real time learning from dynamic analyses of promotional experimentation of the various promotions

Art Unit: 3622

offered to various other customers. Since the claim does not indicate that promotions are offered to a customer or customers, it is unclear which customers are considered "other". Based on applicant's argument, it is interpreted to mean that the experiments are performed on customers other than the customer that is considered to be defunct.

Claims 1 and 13 recite the limitation "from dynamic analyses of promotional experimentation of the various promotions offered to various other customers". The claim does not recite various promotions offered to a customer or other customers therefore; there is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites "further comprises sampling data to obtain information about current market condition". Applicant provides support for this limitation page 19 at [091]. This section of the specification teaches experimentation utilizing the dynamic sampling engine may be repeated periodically to ensure that the optimal promotion is dynamically optimized to regularly compensate for market changes. However dynamically optimizing the promotion to compensate for market change does not equate to the sampling data is performed to obtain information about current market condition. The specification does not teach the step of specifying a range of offers or the real time learning or dynamic analyses of promotional experimentation comprises of sampling data to obtain information about the market conditions. Nowhere in the specification is disclosed a step of obtaining information about the market conditions. Therefore, this feature is considered new matter.

Art Unit: 3622

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz et al.

U.S. Application No. US 2001/0014868, in view of Dahm et al. U.S. Patent No. 6,301,471.

Regarding claims 1, 9-11, 13 and 20, Herz teaches monitoring web-surfer behavior and predicting future surfer behavior and determining a range of offers and providing a promotion to the customer based on the customer behavior (see abstract, par. [0004] to [0011], [0023] to [0046]. Herz teaches wherein the offers include optimal advertisements determined from real time learning from dynamic analyzes of promotional experimentation *offered to various customers (see [003]). Herz teaches that the computer selects offers (providing promotion selected from a set of promotions) from the offer database **that are likely to result in profitable sales**, which requires the system to predict which offers that shopper would likely to accept. Herz teaches that the likelihood of acceptance can be calculated by counting what fraction of shoppers (or similar shoppers) who were presented with the offer (or similar offer) chose to accept. Hers further teaches “(t)he system may amplify the shopper's profile with his or her present goals, as mentioned above, and with any offers that the shopper has recently considered or accepted. For example, if the shopper has just bought ski goggles, the system might select offers of other ski-related equipment that is frequently bought along with ski goggles. Once the*

Art Unit: 3622

*system has determined a shopper's likelihood of accepting a given offer, it can calculate the expected profit from making that offer (namely, the profit if accepted times the probability of acceptance). However, expected profit is only one criterion that a vendor might use to select offers. **Vendors often prefer not to maximize short-term profit but rather to build a long-term relationship with a shopper. This may involve selecting offers that have lower expected profit, but that are likely to improve the shopper's perception of the vendor, or allow the vendor to gather further information about the shopper's preferences which can be used to sell future items***"(see [0037])(wherein the promotion is dependent on the choice of an economic value to maximize, wherein the economic value to be maximized is customer retention, profit, revenue, market share, customer satisfaction, customer retention, utilization of manufacturing resources, or utilization of shipping resources). Herz also teaches that once a new shopper has been partially profiled the method predict that the new shoppers preferences resembles the known preference of other shoppers with similar profiles (see [0046] [0155]-[0158], [0165],[0166].

Herz does not explicitly teach specifying a permissible defunct threshold; determining a probability that a customer will become a defunct after a predetermined period of time has occurred, it is taught in Dahm. Dahm teaches monitoring subscribers behavior. A churn likelihood being predicted based on the subscriber behavior information, such as usage behavior and providing an offer the customer for the purpose of retaining the customer (see col. 11 line 55 to col. 12 line 32, col. 13 lines 12-26 and col. 15 lines 25-49). Dahm also teaches different threshold values. Dahm teaches the susceptible subscriber is typically identified by comparing stored customer profile information with a group of predetermined threshold values associated with the profile information. Based on the comparison a churn susceptibility index is generated.

Art Unit: 3622

A subscriber having profile information (churn susceptibility indexes), which exceeds the threshold values, is identified as being susceptible to churning, the churn likelihood indicator for each subscriber is compared against a threshold value and when the churn likelihood indicator for a particular subscriber exceeds the threshold value, then it is determined that that particular subscriber has a high susceptibility to churning. Hence, for those of the subscribers that are determined to have a high susceptibility to churning, predetermined messages are sent to such subscribers. The objective of the messages that are sent to the subscribers is to reduce the likelihood that the subscribers will, in fact, churn in the near future to some other carrier. Additionally, when the churn likelihood indicator is determined not to exceed the threshold value the churn reduction processing 500 has determined that such subscribers do not have a high susceptibility to churning and, thus, block 510 is skipped for such subscribers so that the messages to reduce their churn likelihood are not send (see col. 8 line 55 to col. 9 line 4, col. 12 lines 1-32). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Dahm's defunct threshold in Herz's customized price and promotion system. One would be motivated to set up a threshold value as taught in Dahm in order to predict a customer who is most likely to churn or discontinue the service, and to provide a proper offer to retain such customers. It would be obvious to use Herz's profile attributes, such as the last interaction of the customer with the web site, and set a threshold value to determine the probability the customer would become a defunct.

Regarding claims 2-5 Herz teaches sampling of customers and segmenting the sample population based on a characteristic of the customers sampled; wherein characteristic is amount

Art Unit: 3622

spent on a web site, interaction with a web site or purchase made at a web site (see [0205] to [0235]).

Regarding claims 6-8 and 12, Herz teaches selection of the promotion is based on predetermined criteria, such as profit, by optimizing an amount of discount offered in the promotion; optimizing performed continuously; wherein the optimization includes sampling responses received from customers to the offer ... the promotion amount provided to other customers based on the promotion discovered in the sample (see [0236] to [0246]).

Regarding claims 14 and 17, Herz teaches sampling data to obtain information about current market condition. Applicant discloses at [0014] “(t)he Internet is a dynamic marketplace. As e-commerce becomes a dominant force, the ability to dynamically adjust to and exploit changes in the Internet marketplace becomes critical. An enormous amount of detailed, disaggregate information is being routinely captured during Internet transactions. The ability to gather real-time information on transactions conducted on the Internet means that Internet merchants could use the information to dynamically update their websites to take advantage of market conditions. In particular, the availability of real-time transaction information opens up the possibility of dynamic pricing and marketing. And at [0018] “(s)ome efforts have been made to use computer systems to estimate supply and demand, to adjust prices to perceived market conditions, or to vary prices based on the identity and purchasing history of the customer”. Therefore, since in Herz there is the ability to gather real-time information on transaction conducted on the Internet the information is used is used to take advantage of the market conditions.

Art Unit: 3622

Regarding claims 15 and 18 Herz teaches wherein the step of providing a promotion selected from the set of promotions comprises proactively offering promotions to customers via email messages (see [0290]).

Regarding claims 16 and 19 Herz/Dahm teaches wherein the step of specifying a permissible defunct threshold comprises selecting a defunct threshold. “So as to minimize the cost of customer retention” is intended use only and there is no additional step performed to patentable differentiate the claimed invention from the prior art.

Response to Arguments

Applicant's arguments filed December 21, 2006 have been fully considered but they are not persuasive.

As indicated above, Herz teaches providing promotion selected from promotions that are determined from analyses of promotions provided to other customers. (See also [0315]). Herz does not teach a threshold that indicates that there is a probability that the consumer could be defunct. In Herz, the system keeps track of the elapsed time period of the consumer's interaction with the site and provides incentive based on the record (aggressive or less aggressive based on the frequency of interaction). Applicant's invention on the other hand provides promotional offer to the consumer only if the probability of consumer being lost is high. According to applicant's invention a web merchant for example considers a consumer defunct if a consumer's last interaction is six month or more. A threshold value is then selected or specified, i.e., between zero and six month, (for example 3 month).

Art Unit: 3622

Dahm teaches a subscriber having profile information (churn susceptibility indexes), which exceeds the threshold values, is identified as being susceptible to churning, the churn likelihood indicator for each subscriber is compared against a threshold value and when the churn likelihood indicator for a particular subscriber exceeds the threshold value, then it is determined that that particular subscriber has a high susceptibility to churning. Hence, for those of the subscribers that are determined to have a high susceptibility to churning, predetermined messages are sent to such subscribers. The objective of the messages that are sent to the subscribers is to reduce the likelihood that the subscribers will, in fact, churn in the near future to some other carrier. Additionally, when the churn likelihood indicator is determined not to exceed the threshold value the churn reduction processing 500 has determined that such subscribers do not have a high susceptibility to churning and, thus, block 510 is skipped for such subscribers so that the messages to reduce their churn likelihood are not send (see col. 8 line 55 to col. 9 line 4, col. 12 lines 1-32), same as applicant's invention.

Even though the method and system of providing subscriber's loyalty and retention techniques of Dahm is used in customers of mobile devices, Dahm teaches specifying a threshold value based on customer profile and determining a probability that the customer would be defunct (churn). Dahm's method provides the advantage of identifying customer before they are lost as customers and avoids Herz's aggressive promotional offers possible in order to reinitiate lost loyalties. Dahm solves the problem of losing customer not only by understanding the cause of losing (churning) customers but also by understanding which particular customer are most likely to churn (defunct) (see col. 1 lines 43-53).

In particular, the Supreme Court emphasized that "the principles laid down in *Graham* reaffirmed the 'functional approach' of *Hotehkiss*, 11 How. 248." *KSR*, 127 S. Ct. at 1739, 82

Art Unit: 3622

USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12, 148 USPQ 459, 464 (1966) (emphasis added)), and reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

The Supreme Court made clear that "[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *Id.* The Court explained, "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that "[t]o facilitate review, this analysis should be made explicit. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). However, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 1741, 82 USPQ2d at 1396.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3622

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YR

/Yehdega Retta/

Primary Examiner, Art Unit 3622